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09/938,303	08/24/2001	Keishin Nagaoka	122.1048CIPRE	1912

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<table>
<tr>
<td rowspan="2">Office Action Summary</td>
<td colspan="2">Application No.</td>
<td colspan="2">Applicant(s)</td>
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<tr>
<td colspan="2">09/938,303</td>
<td colspan="2">NAGAOKA ET AL.</td>
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<td colspan="2">Examiner</td>
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<td colspan="2">Jimmy H. Nguyen</td>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>20 June 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-72</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-72</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All   b)☐ Some *   c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☒ Certified copies of the priority documents have been received in Application No. <u>08/188,772</u>.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Reissue Applications

1.   This Office Action is made in response to applicants' amendment filed on 06/20/2007.

Claims 1-72 are currently pending in the application. An action follows below:

Summary of the Invention

2.   As best understood by the Examiner, an object of the present invention is to provide a

gray scale controlling method for a plasma display device, which enhances the display quality of

the plasma display device by establishing **a linear relation between the gray level and the**

corresponding brightness. The present invention contains three embodiments, a first

embodiment illustrated by Fig. 8, a second embodiment illustrated by Fig. 9, and a third

embodiment illustrated by Fig. 10.

In the first embodiment (Fig. 8), the number of sustain emissions in each subframe is so

set that the brightness of an arbitrary subframe is two times the brightness of the subframe next

brighter than the former (see col. 12, lines 33-36), the number of sustain emissions in each

subframe is **set** in an **anti-geometrical progression**, or the number of sustain emissions in each

subframe is **not determined in accordance with any mathematical relationship**, (see col. 13,

lines 16-20), and there is no need complex calculations (see col. 13, lines 3-4). Further, **the**

original disclosure does not teach any equation used in the first embodiment, e.g., the

conventional gray scale controlling method using an equation (1) $B = f_1(P)$ to calculate the

brightness B for gray levels (see col. 12, lines 25-32); the gray scale controlling method,

according to the second embodiment, using an equation (2) $B = f_2(P)$ to calculate the brightness

B for gray levels (see Fig. 9; col. 13, lines 31-38); and the gray scale controlling method,

according to the third embodiment, using an equation $B = f_3(P)$ to calculate the brightness B for

gray levels (see Fig. 10; col. 14, last paragraph). Accordingly, the first embodiment **does not**

explicitly teach any calculation of the number of sustain emissions in each subframe and a

number of sustain emissions is previously **set** in the memory for each subframe, so that the

brightness of an arbitrary subframe is two times the brightness of the subframe next brighter than

the former.

In the second (Fig. 9) and third (Fig. 10) embodiments, in order to make the relation

between the gray level and the corresponding brightness a **linear** relation, the numbers of sustain

emissions of each subframe in the case when the sum of the squares of errors in each gray level

with respect to the ideal values becomes minimum is **calculated** on the basis of data of the

brightness actually measured for the numbers of sustain emissions (see col. 13, lines 44-51). In

the second embodiment (Fig. 9), the brightnesses of subframes are **15** cd/m^2 for SF1, **30** cd/m^2

for SF2, and **60** cd/m^2 for SF3. In the third embodiment (Fig. 10), the brightnesses of subframes

are **20** cd/m^2 for SF1, **40** cd/m^2 for SF2, and **80** cd/m^2 for SF3. Further, the disclosure teaches the

gray scale controlling method, according to the second embodiment, using an equation (2) $B =$

$f_2(P)$ to calculate the brightness B for gray levels (see Fig. 9; col. 13, lines 31-38) and the gray

scale controlling method, according to the third embodiment, using an equation $B = f_3(P)$ to

calculate the brightness B for gray levels (see Fig. 10; col. 14, last paragraph).

Claim Rejections - 35 USC § 251

3.   Claims 1-72 are rejected under 35 U.S.C. 251 as being based upon new matter added to

the patent for which reissue is sought. The added material which is not supported by the prior

patent is as follows:

As to claim 1, this claim recites a feature, "<u>**calculating** numbers of sustain emissions of</u>

<u>said plurality of subframes so as to make a ratio of brightnesses of said plurality of subframes</u>

<u>substantially correspond with a ratio of the specific weight values of said plurality of subframes</u>"

presently recited in lines 6-10, which is **only readable in the second and third embodiments**

and **not readable in the first embodiment** since the first embodiment does not teach

"**calculating** the number of sustain emissions". Independent claim 1 further recites a feature, "<u>a</u>

<u>ratio of numbers of sustain emissions of said plurality of subframes does not equal the ratio of</u>

<u>the weight values of said plurality of subframes</u>" presently recited in lines 10-12, which is **only**

readable in the first embodiment and **not readable in the second and third embodiments**

since the second or third embodiment does not teach a ratio relationship between a ratio of

numbers of sustain emissions of said plurality of subframes and a ratio of the weight values of

said plurality of subframes or a ratio of numbers of sustain emissions of said plurality of

subframes being not equal the ratio of the weight values of said plurality of subframes. See the

Summary of the Invention section above. In other words, the patent does not teach a combination

of the first embodiment and the second or third embodiment, or a display device and a method

including the above underlined features.

As to claim 2, since this claim depends upon claim 1, this claim is therefore rejected for

at least the same reason set forth in claim 1 above.

As to claim 3, since claim 3 similarly recites the features of claim 1 as discussed in the

rejection to claim 1 above, these claims are rejected for the same reason set forth in claim 1

above.

As to claims 4-17, since these claims depend upon claim 3, these claims are therefore rejected for at least the same reason set forth in claim 3 above.

As to claim 18, this claim recites features, (i) "<u>numbers of sustain emissions of **each gray level** are **calculated** so as to make a ratio of brightnesses of **each** gray level substantially correspond with a ratio of the specific weight values of each gray level</u>" presently recited in lines 8-12 and (ii) "<u>a ratio of numbers of sustain emissions of **each** gray level does not equal the ratio of the specific weight values of each gray level</u>" presently recited in lines 12-14. As best understood as well recognized by one of ordinary skilled in the display art, each gray scale can have only a corresponding number of sustain pulses. Further, note that the first embodiment only teaches a ratio relationship between a ratio of numbers of sustain emissions of **said plurality of subframes** (but not "a ratio of numbers of sustain emissions of **each** gray level", as claimed) and a ratio of the weight values **of said plurality of subframes** (but not "a ratio of the specific weight values **of each gray level**", as claimed), thereby failing to teach the feature (ii) above. Further, the first embodiment does not teach the feature (i); see the Summary of the Invention section above. Further, the second/third embodiment only teaches numbers of sustain emissions of **the plurality of subframes** (but not numbers of sustain emissions of **each gray level**, as claimed) calculated so as to make a ratio of brightnesses of **the plurality of subframes** (but not a ratio of brightnesses of **each gray level**, as claimed) substantially correspond with a ratio of the specific weight values of **the plurality of subframes** (but not a ratio of the specific weight values of **each gray level**, as claimed). See the Summary of the Invention section above. In other words, the patent does not teach a display device and a method including the above underlined features.

As to claims 19-26, since these claims depend upon claim 18, these claims are therefore rejected for at least the same reason set forth in claim 18 above.

As to claim 27, since claim 27 similarly recites the features of claim 18 as discussed in the rejection to claim 18 above, this claim is rejected for the same reason set forth in claim 18 above.

As to claim 28, independent claim 28 recites features, "setting a number of sustain emissions, ... , different subframes bearing a **non-linear** relationship to the different, predetermined brightnesses of the respective, different subframes" presently recited in lines 6-10. Note that the first embodiment (Fig. 8 and the corresponding description) expressly teaches "setting a number of sustain emissions for establishing a **linear** relationship between the gray level and the corresponding brightness" and the second (Fig. 9) and third (Fig. 10) embodiments also teach the same (see Abstract, last 5 lines; col. 13, lines 44-46). In other words, the patent does not teach a display device and a method including the above underlined features.

As to claims 29-36, since these claims depend upon claim 28, these claims are therefore rejected for at least the same reason set forth in claim 28 above.

As to claim 37, since this claim similarly recites the features of claim 28 as discussed in the rejection to claim 28 above, this claim is rejected at least for the same reason set forth in claim 28 above.

As to claims 38-45, since these claims depend upon claim 37, these claims are therefore rejected for at least the same reason set forth in claim 37 above.

As to claim 46, since this claim similarly recites the features of claim 1 as discussed in the rejection to claim 1 above, this claim is rejected at least for the same reason set forth in claim 1 above.

As to claim 47, since these claims depend upon claim 46, this claim is therefore rejected for at least the same reason set forth in claim 3 above.

As to claim 48, since this claim similarly recites the features of claim 1 as discussed in the rejection to claim 1 above, this claim is rejected at least for the same reason set forth in claim 1 above.

As to claims 49-62, since these claims depend upon claim 48, these claims are therefore rejected for at least the same reason set forth in claim 48 above.

As to claim 63, since independent claim 63 similarly recites the features of claim 18 as discussed in the rejection to claim 18 above, this claim is rejected at least for the same reason set forth in claim 18 above.

As to claims 64-71, since these claims depend upon claim 63, these claims are therefore rejected for at least the same reason set forth in claim 63 above.

As to claim 72, since claim 72 similarly recites the features of claim 63 as discussed in the rejection to claim 63 above, this claim is rejected at least for the same reason set forth in claim 63 above.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5.   Claims 1-72 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention.

As to claim 1, claim 1 recites a feature, "**calculating** numbers of sustain emissions of said

plurality of subframes so as to make a ratio of brightnesses of said plurality of subframes

substantially correspond with a ratio of the specific weight values of said plurality of subframes"

presently recited in lines 6-10, which is **only readable in the second and third embodiments**

and **not readable in the first embodiment** since the first embodiment does not teach

"**calculating** the number of sustain emissions". Independent claim 1 further recites a feature, "a

ratio of numbers of sustain emissions of said plurality of subframes does not equal the ratio of

the weight values of said plurality of subframes" presently recited in lines 10-12, which is **only**

readable in the first embodiment and **not readable in the second and third embodiments**

since the second or third embodiment does not teach a ratio relationship between a ratio of

numbers of sustain emissions of said plurality of subframes and a ratio of the weight values of

said plurality of subframes or a ratio of numbers of sustain emissions of said plurality of

subframes being not equal the ratio of the weight values of said plurality of subframes. See the

Summary of the Invention section above. Accordingly, the original disclosure does not teach a

combination of the first embodiment and the second or third embodiment, or a display device

and a method including the above underlined features.

As to claim 2, since this claim depends upon claim 3, this claim is therefore rejected for

at least the same reason set forth in claim 1 above.

As to claim 3, since this claim similarly recites the features of claim 1 as discussed in the

rejection to claim 1 above, this claim is rejected for the same reason set forth in claim 1 above.

As to claims 4-17, since these claims depend upon claim 3, these claims are therefore

rejected for at least the same reason set forth in claim 3 above.

As to claim 18, this claim recites features, (i) "numbers of sustain emissions of **each gray**

level are **calculated** so as to make a ratio of brightnesses of **each** gray level substantially

correspond with a ratio of the specific weight values of each gray level" presently recited in lines

8-12 and (ii) "a ratio of numbers of sustain emissions of **each** gray level does not equal the ratio

of the specific weight values of each gray level" presently recited in lines 12-14. As best

understood as well recognized by one of ordinary skilled in the display art, each gray scale can

have only a corresponding number of sustain pulses. Further, note that the first embodiment only

teaches a ratio relationship between a ratio of numbers of sustain emissions of **said plurality of**

subframes (but not "a ratio of numbers of sustain emissions of **each** gray level", as claimed) and

a ratio of the weight values **of said plurality of subframes** (but not "a ratio of the specific

weight values **of each gray level**", as claimed), thereby failing to teach the feature (ii) above.

Further, the first embodiment does not teach the feature (i); see the Summary of the Invention

section above. Further, the second/third embodiment only teaches numbers of sustain emissions

of **the plurality of subframes** (but not numbers of sustain emissions of **each gray level**, as

claimed) calculated so as to make a ratio of brightnesses of **the plurality of subframes** (but not

a ratio of brightnesses of **each gray level**, as claimed) substantially correspond with a ratio of the

specific weight values of **the plurality of subframes** (but not a ratio of the specific weight

values of **each gray level**, as claimed). See the Summary of the Invention section above.

Accordingly, the original disclosure does not teach a display device and a method including the

above underlined features.

As to claims 19-26, since these claims depend upon claim 18, these claims are therefore

rejected for at least the same reason set forth in claim 18 above.

As to claim 27, since claim 27 similarly recites the features of claim 18 as discussed in

the rejection to claim 18 above, this claim is rejected for the same reason set forth in claim 18

above.

As to claim 28, this claim recites features, "setting a number of sustain emissions, ... ,

different subframes bearing a **non-linear** relationship to the different, predetermined

brightnesses of the respective, different subframes" presently recited in lines 6-10. Note that the

first embodiment (Fig. 8 and the corresponding description) expressly teaches "setting a number

of sustain emissions for establishing a **linear** relationship between the gray level and the

corresponding brightness" and the second (Fig. 9) and third (Fig. 10) embodiments also teach the

same (see Abstract, last 5 lines; col. 13, lines 44-46). Accordingly, the original disclosure does

not teach a display device and a method including the above underlined features.

As to claims 29-36, since these claims depend upon claim 28, these claims are therefore

rejected for at least the same reason set forth in claim 28 above.

As to claim 37, since this claim similarly recites the features of claim 28 as discussed in

the rejection to claim 28 above, this claim is rejected at least for the same reason set forth in

claim 28 above.

As to claim 38-45, since these claims depend upon claim 37, these claims are therefore rejected for at least the same reason set forth in claim 37 above.

As to claim 46, since this claim similarly recites the features of claim 1 as discussed in the rejection to claim 1 above, this claim is rejected at least for the same reason set forth in claim 1 above.

As to claim 47, since this claim depends upon claim 46, this claim is therefore rejected for at least the same reason set forth in claim 46 above.

As to claim 48, since independent claim 48 similarly recites the features of claim 1 as discussed in the rejection to claim 1 above, this claim is rejected at least for the same reason set forth in claim 1 above.

As to claims 49-62, since these claims depend upon claim 48, these claims are therefore rejected for at least the same reason set forth in claim 48 above.

As to claim 63, since this claim similarly recites the features of claim 18 as discussed in the rejection to claim 18 above, this claim is rejected at least for the same reason set forth in claim 18 above.

As to claims 64-71, since these claims depend upon claim 63, these claims are therefore rejected for at least the same reason set forth in claim 63 above.

As to claim 72, since this claim similarly recites the features of claim 63 as discussed in the rejection to claim 63 above, this claim is rejected at least for the same reason set forth in claim 63 above.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.   Claims 1-11, 18, 27, 46-56, 63, and 72 are rejected under 35 U.S.C. 102(a) as being

anticipated by Applicants' Admitted Prior Art, hereinafter AAPA.

        As to claims 1, 3, 18, 27, 46, 48, 63 and 72, the claimed invention is read in the AAPA as

follows: AAPA discloses a plasma display panel (PDP) device and an associate method of

controlling a gray scale of a PDP device, the PDP device comprising at least one pair of

electrodes (see Figs. 1A-1B) for carrying out a discharge operation, wherein the PDP is driven

by separating address periods (see Figs. 4 and 6) in which display data are written in a common

period for each display line in the screen so as to accumulate wall charges necessary for sustain

discharge from sustain discharge periods (see Figs. 4 and 6) in which sustain discharge for light

emission is repeated in a common period for each display line, one frame forming an image is

constituted by a plurality of subframes (SF1-SF4, see Fig. 6) each having a specific weight value

(SF1 has a weight value of 1, SF2 has a weight value of 2, SF2 has a weight value of 4, and SF3

has a weight value of 8; see col. 10, lines 34-45), numbers of sustain emissions of said plurality

of subframes are calculated so as to make a ratio of (ideal value) brightnesses (10:20:40:80) of

said plurality of subframes substantially correspond with a ratio of the specific weight values

(1:2:4:8) of said plurality of subframes (see Fig. 7; a solid line), wherein a ratio of numbers of

sustain emissions of subframes in the order of **SF4:SF2:SF3:SF1** is **80:20:40:10** and a ratio of

the specific weight values of said plurality of subframes in the order of **SF1:SF2:SF3:SF4** is

1:2:4:8, i.e., the ratio of the numbers of sustain emissions of subframes does not equal to the

ratio of the specific weight values of said plurality of subframes, and the image is displayed on

said plasma display device by optionally combining said subframes each having the calculated

number of the sustain emissions. Accordingly, all the limitations of these claims are read in

AAPA.

As to claims 2 and 47, AAPA discloses the number of sustain emissions of said each

subframe is calculated so that the brightness of 20 cd/m^2 obtained by a subframe (SF2) of said

plurality of subframes having an arbitrary brightness is twice the brightness of 10 cd/m^2 obtained

by a subframe (SF1) of said plurality of subframes having a brightness next to that of subframe

(SF2) (see Fig. 7).

As to claims 4-11 and 49-56, AAPA discloses all limitations of these claims are shown in

Figs. 1A-2B and 5A-5D.

8.   Claims 1, 3-13, 18, 27, 46, 48-58, 63, and 72 are rejected under 35 U.S.C. 102(e) as being

anticipated by Shinoda (US 5,541,618).

> The applied reference has a common assignee with the instant application. Based upon the earlier effective
> U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e)
> might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the
> reference was derived from the inventor of this application and is thus not the invention "by another," or by an
> appropriate showing under 37 CFR 1.131.

As to claims 1, 3, 18, 27, 46, 48, 63 and 72, the claimed invention is read in the Shinoda

reference as follows: Shinoda discloses a plasma display panel (PDP) device and an associate

method of controlling a gray scale of a PDP device, the PDP device (see Figs. 6 and 8)

comprising at least one pair of electrodes (X, Y and A, see Figs. 6 and 8) for carrying out a

discharge operation, wherein the PDP is driven by separating address periods (see Figs. 4 and 5)

in which display data are written in a common period for each display line in the screen so as to

accumulate wall charges necessary for sustain discharge from sustain discharge periods (display

periods; see Figs. 4 and 6) in which sustain discharge for light emission is repeated in a common

period for each display line, one frame forming an image is constituted by a plurality of

subframes (SF1-SF8; see col. 3, lines 25-28) each having a specific weight value (SF1 has a

weight value of 1, SF2 has a weight value of 2, SF2 has a weight value of 4, and SF3 has a

weight value of 8, and etc.; see col. 3, lines 35-39), numbers of sustain emissions of said plurality

of subframes are calculated so as inherently to make a ratio of (ideal value) brightnesses of said

plurality of subframes substantially correspond with a ratio of the specific weight values of said

plurality of subframes, wherein a ratio of numbers of sustain emissions of subframes in the order

of **SF1:SF2:SF3:SF4:SF5:SF6:SF7:SF8** is **3:6:13:26:52:104:209:418** (see col. 5, lines 10-19)

and a ratio of the specific weight values of said plurality of subframes in the order of

SF1:SF2:SF3:SF4:SF5:SF6:SF7:SF8 is **1:2:4:8:16:32:64:128** (see col. 3, lines 35-40), i.e., the

ratio of the numbers of sustain emissions of subframes does not equal to the ratio of the specific

weight values of said plurality of subframes, and the image is displayed on said plasma display

device by optionally combining said subframes each having the calculated number of the sustain

emissions. Accordingly, all the limitations of these claims are read in the Shinoda reference.

As to claims 4-13 and 49-58, Shinoda discloses all limitations of these claims are shown

in Figs. 6 and 8-11 and the corresponding description.

Response to Arguments

9.   Applicant's arguments filed 06/20/2007 have been fully considered but they are not

persuasive because as follows:

With respect to the Examiner's Summary of the invention, applicants argue that the

embodiment shown in Fig. 8 does need to calculate the number of sustain emissions for each

subframe. Examiner disagrees because (i) there is no term "calculate" or similar in the original

disclosure corresponding to the first embodiment and (ii) as discussed in the detailed Summary

of the Invention section above, **the original disclosure does not teach any equation used in the**

first embodiment, e.g., the conventional gray scale controlling method using an equation (1) **B**

= f_1(P) to calculate the brightness B for gray levels (see col. 12, lines 25-32); the gray scale

controlling method, according to the second embodiment, using an equation (2) **B = f_2(P)** to

calculate the brightness B for gray levels (see Fig. 9; col. 13, lines 31-38); and the gray scale

controlling method, according to the third embodiment, using an equation **B = f_3(P)** to calculate

the brightness B for gray levels (see Fig. 10; col. 14, last paragraph). Accordingly, the first

embodiment **<u>does not explicitly teach any calculation</u>** of the number of sustain emissions in

each subframe and a number of sustain emissions is previously <u>set</u> in the memory for each

subframe, so that the brightness of an arbitrary subframe is two times the brightness of the

subframe next brighter than the former.

With respect to the Applicants' arguments to the rejections under 35 USC 251 and 35

USC 112, first paragraph, in the Office Action dated 02/20/2007, see the response above.

With respect to the rejection under 35 USC 102(a) as being anticipated by AAPA to

claims 1-11, 18, 27, 46-56, 63 and 72, in the Office Action dated 02/20/2007, Applicants argue

that since the relationship of the actually measured brightness with respect to the number of

sustain discharge is not linear, but curve, the ratio of brightness of said plurality of subframes does not substantially correspond with a ratio of the specific weight values of said plurality of subframes in Fig. 7. Examiner agrees; however, since the claimed invention does not explicitly recite the actually measured brightness and the relationship of the ideal brightness with respect to the number of sustain discharge is linear, Fig. 7 of AAPA shows the ratio of (ideal value) brightness of said plurality of subframes substantially corresponding with a ratio of the specific weight values of said plurality of subframes. See the rejection above.

In response to Applicants' argument on page 23, lines 5-21, Examiner directs Applicants to, for example, claim 1 which does not recite any order of numbers of sustain emissions or any order of the specific weight values, of said plurality of subframes.

With respect to the rejection under 35 USC 102(e) as being anticipated by Shinoda to claims 1, 3-13, 18, 27, 46, 48-58, 63 and 72, in the Office Action dated 02/20/2007, Applicants argue that because Shinoda discloses **linearly increasing** a number of sustain pulses as a subframe weight increases (see col. 24, lines 29-32), Shinoda fails to disclose the claimed invention of claim 1. Examiner disagrees because Shinoda does not disclose linearly increasing a number of sustain pulses as a subframe weight increases as argued by Applicants; see the table on page 24 of the amendment or col. 5 of the Shinoda reference, which shows **6** sustain pulses in the second subframe and **13** sustain pulses in the third subframe, i.e., **not linearly** increasing a number of sustain pulses as a subframe weight increases.

Conclusion

10.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675.

The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the

organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

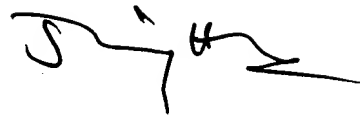system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2629

JHN
August 13, 2007

Jimmy H. Nguyen
Primary Examiner
Technology Division: 2629